UDC 621.762:669.245

BABICH, B. N., BERESTEN', N. Ye., LYUKEVICH, V. I., ROMANOVICH, I. V., TIMOFEYEVA, N. I.

"Influence of Distribution of Hardening Phase Particles in Powders on Thermal Stability of Dispersion-Hardened Nickel"

Kiev, Poroshkovaya Metallurgiya, No 8, Aug, 1972, pp 25-30.

Abstract: This article studies the structural stability and strength properties of compositions produced of powders made by various methods providing near-identical hardening phase particle dimensions but different distributions of these particles in the matrix. It was found that achievement in initial powders of the most even possible distribution of ultrafine particles of the hardening phase assures thermal stability of dispersion-hardened nickel. The level of high-temperature properties of dispersion-hardened nickel depends on the presence of a certain quantity of oriented recrystallization areas in the structure with total absence of equiaxial grains. Unevenness of particle distribution of the hardening phase particles in the initial powders causes an increase in the mean particle size when the compact material is produced and a change in the nature of recrystallization, with the formation of equiaxial grains. The tests were based on nickel powder with 2% hafnium dioxide. The powders were produced by carbonate precipitation of mitrate solutions and evaporation concentration. Following hot extrusion 1/2

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UDC 621.762:669.245

BABICH, B. N., BERESTEN', N. Ye., LYUKEVICH, V. I., ROMANOVICH, I. V., TIMOFEYEVA, N. I., Kiev, Poroshkovaya Metallurgiya, No 8, Aug, 1972, pp. 25-30.

and cold drawing, the batch with poorer distribution showed intensive particle growth probably as a result of accumulation of particles into conglomerates.

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Superalloys

USSR

UDC 669.24 298:620.185.5

BABICH, B. N., LYUKEVICH, V. I., LEVINSKAYA, M. KH. and ROMASHOV, V. M.

"Recrystallization of Nickel Strengthened With Thorium Dioxide"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 3, 1972, pp. 36-40

Abstract: The study deals with the recrystallization of nickel strengthened with thorium dioxide following cold drawing and anneals of extruded metal powder rods. The material's composition was 96.89% Ni; 2.81% ThO₂; 0.07%

C: 0.008% S; 0.003% P; 0.08% Fe; 0.037% Cu. Precipitation-hardened nickel has an extremely stable structure which explains the preservation of a considerable strengthening effect as a result of cold drawing after high-temperature annealing. The material features a wide temperature interval between the recovery occurring at 400-600°C and the recrystallization which develops at 1200-1400°C. On recrystallization, the precipitation-hardened nickel develops a structural inhomogeneity which is stable up to 1400°C, the amount of large recrystallized grains is governed by the preliminary deformation ratio and annealing temperatures. An increase in cold deformation activates the recrystallization of nickel strengthened with ThO₂.

1/2

USSR

BABICH, B. N., et al, Metallovedeniye i termicheskaya ohrabotka metallov,

However, higher deformation ratios (83%) suppress the formation of large recrystallized grains. (3 illustrations, 2 tables, 11 bibliographic references).

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

UDC 536.2

CHEKHOVSKOY, V. Ya., PETROV, V. A., PETROVA, I. I., and LYUKSHIN, E. N.

"Reat Conductivity of Pyrographite at High Temperatures"

Moscow, Teplofizika Vysokih Temperatur, Akademiya Nauk SSSR, Vol 9, No 1,

abstract: The specimens of pyrographite used to determine its heat conductivity were of tubular form, they were obtained by precipitation from methane at 2100°C temperature. The outside diameter of the tubes was 12 millimeter, wall thickness 1 and 2 millimeter. The specimen was heated by electric current passing through it, the heat generated was determined by measuring the current and the voltage drop.

The coefficient of heat conductivity in the radial direction was determined

The results are compared with those obtained by other authors. The discrepancies are quite high. This is apparently due to differences in micro and macro structure of pyrographite, which depends on precipitation temperature, heat treatment, specimen geometry and other factors. The discrepancies 1/2

- 41 -

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

CHEKHOVSKOY, V. Ya., et al., Teplofizika Vysokih Temporatur, Akademiya Nauk SSSR, Vol 9, No 1, Jan-Feb 1971, pp 80-81

are also caused by systematic errors connected with different experimental methods.

The error analysis of the obtained results shows that the maximum relative systematic error in determining the coefficient of heat conductivity is 15

212

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

USSR

UDG: 622,24,051,553

Turov, L. N., Bobrov, S. N., Lyukshin, P. M., Smirnov, V. P.

"Industrial Testing of Type V-97T Drill Bits with Noncase-hardened Steel Gutters"

Moscow, Bureniye, No 6, 1972, pp 3-4.

Abstract: The Moscow Institute of the Petrochemical and Gas Industry imeni I. M. Gubkin has developed drill bit cutters of noncase-hardened steel, referred to as type D7KhFNSh. V-97T drill bits have been made using these cutters. The cutters were hardened in oil (from 840-860°C) then low tempered (at 180-200°C). The bits have been subjected to test stand and field testing, and have shown test results some 30-40% higher then the series produced bits with cutters of type 17N3MASSh steel.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

UDC 536.421.4+536.421.1

USSR

GENDELEV, S. Sh., ZATOMOHKOVSKIY, Ya. A., and INVESHIN, V. V.

"Effect of Crystallization Conditions on the Smoothness of Manganese Ferrite Film Surfaces"

v sb. Kristallizatsiva i fez. prevrashcheniya (Crystallisation and Phase Transformations-collection of works) Linsk, "Kauka i tekhn." 1971, pp 86-90 (from <u>Elh-Fizika</u>, No. 9, 1971, Abstract No. 93399)

Translation: The effect of temperature and rate of crystallization on the dimensions and form of the bumps in the growth of manganese ferrite films is investigated. The films were grown by the method of chemical transport reactions in a small gap. With increasing temperature, there were at first many and very small growing bumps; these reached a maximum and then degenerated. The size of the truncated bumps increased continuously. With an increase in the rate of growth, the height of the bumps increased, and their shape changed from pyramidal to conical. Author's abstract

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- 59 -

CIA-RDP86-00513R002201910002-4" APPROVED FOR RELEASE: 09/01/2001

UDC 621.317.331:536.45

PETROV, V. A., PETROVA, I. I., CHEKHOVSKOY, V. Ya., LYUNSHIN, Ye. N.

Specific Electric Resistivity of Pyrographite"

Moscow, Teplofizika Vysokikh Temperatur, Vol. 9, No. 2, Mar-Apr, 71, p. 302-305.

Abstract: Results are presented from an experimental determination of the specific electric resistivity of pyrographite. The specific resistivity in the direction parallel to the precipitation surface is determined in the 300-2200°K temperature parallel to the resistivity in the direction perpendicular to this surface -- in the interval, the resistivity in the data produced are compared with the data of other authors.

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UDC 669.721.5:536.422.1

USSR

MAKSIMENKO, G. I., LYULICHEV, A. N., CURPRININ, F. I., and KORSUNSKAYA, I. G.

*Effect of Surrounding Medium on the Process of Thermal Failure of the Surface of Magnesium Alloys in a Vacuum"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 72, pp 106-112

Abstract: The purpose of this work was to study the effect of the surrounding medium on the initial stage of sublimation, i.e., on the process of thermal failure of the surface of magnesium alloys in a vacuum. The magnesium alloy tested was MA-2. Specifically investigated were the effects of vacuum depth, temperature of the surfaces and medium surrounding the sample, and composition of residual gases in the vacuum chamber. The better the vacuum the better chance there is to exclude the formation of oxide films on the sample due to diffusion processes. Temperature of the sample and surrounding medium increase the possibility of oxide formation as well as the composition of residual gases. Of the three effects studied, the composition of the residual gases contributes the most toward thermal failure of the alloy's surface. It was noted that the composition of the residual games between the sample and cryogenic tanks differed substantially from that of the gases on the opposite side of the sample. 5 figures, 4 bibliographic references.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

USSR

UDC 621.791:539.378:669.721+669.71

KORSUNSKAYA, I. G., Engineer, LYULICHEV, A. N., Candidate of Chemical Sciences, and MAKSIMENKO, G. I., Engineer, Physico Technical Institute of Low Temperatures, Academy of Sciences UkrSSR

*Diffusion Welding of Magnesium With Aluminum in Vacuum"

Moscow, Svarochnoye Proizvodstvo, No 7, Jul 70, pp 19-20

Abstract: Diffusion welding was carried out on a polished aluminum (99.99% pure) sample lying free on a polished magnesium (99.99% pure) sample in a vacuum chamber (10-2 - 10-6 torr) at 440°C. A microscopic section of the welded joint is shown. The disappearance of discontinuity at 440°C was observed directly in vacuum, using the MVT metallographic microscope. It is concluded that in order to realize a diffusion welding of magnesium with aluminum it is not necessary to apply pressure for the mechanical destruction of exide films, and that a contact between metal surfaces is quite sufficient. 4 figures, 2 refer.

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CIA-RDP86-00513R002201910002-4 "APPROVED FOR RELEASE: 09/01/2001

055 UNCLASSIFIED 1/2

PROCESSING DATE--27NOV70

TITLE-POSSIBILITIES FOR USING GAS TURBINE ASSEMBLIES AND MAGNETOHYDRODYNAMIC GENERATORS IN A NUCLEAR POWER STATION WITH HIGH AUTHOR-104)-MILLIONSHCHIKOV, M.D., LYULKA. A.M., NEDOSPASOV, A.V.,

SHEYNDLIN. A.YE.

COUNTRY OF INFO--USSR

SOURCE-TOPLOFIZ. VYS. TEMP. 1970, 8(2), 379-93

DATE PUBLISHED ---- 70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--GAS TURBINE, MAGNETOHYDRODYNAMICS, NUCLEAR POWER PLANT, HHD GENERATOR, GAS COOLED NUCLEAR REACTOR/10130009W REACTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3008/0589

STEP NO--UR/0294/70/008/002/0379/0393

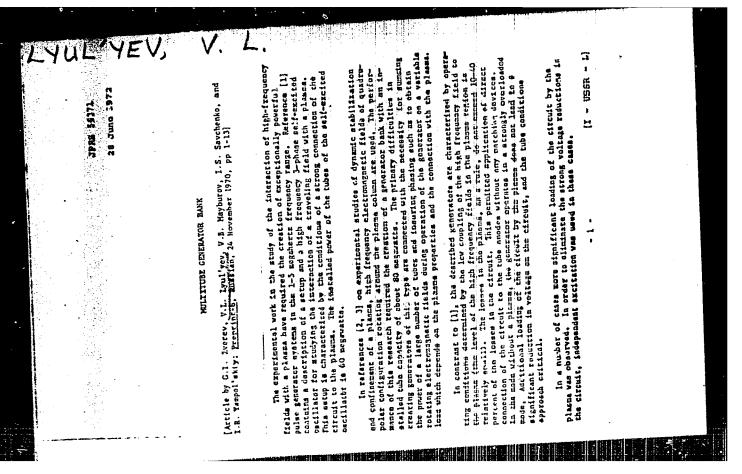
CIRC ACCESSION NO--APO137674

UNCLASSIFIED

PROCESSING DATE--27NOV70 UNCLASSIFIED 055 2/2 CIRC ACCESSION NO--AP0137674 ABSTRACT. THERMODYNAMIC EFFICIENCIES (ECONOMICS) AND REDUCED LEVELS OF THERMAL POLLUTION ATTAINABLE IN HE GAS ABSTRACT/EXTRACT--(U) GP-0-COOLED REACTORS COUPLED TO GAS TURBINES OR MAGNET CHYDRODYNAMIC (MHD) GENERATORS ARE DISCUSSED. GAS TURBINE DESIGNS, THEIR COUPLING TO 1200-HW REACTORS, THEIR OPERATION AT 850, 950, AND 1200 DEGREES, AND THEIR EFFICIENCIES OF 46.2-54. SPERCENT ARE COMPARED AND ARE DISCUSSED IN RELATION TO COUNTERFLOW AND CROSS FLOW REGENERATOR CHARACTERISTICS. THE CHARACTERISTICS AND EFFICIENCIES OF CARBIDE FUELED 3000-MW REACTORS COUPLED TO MHD GENERATORS OPERATING ON AR-CS OR HE-CS MIXTS. AT GAS COUTLET TEMPS. OF 1733-1973DEGREESK AND REACTOR PRESSURES OF 5-50 ATM ARE DISCUSSED. AN EFFICIENCY OF 57-9PERCENT WAS CALCU. FOR A 3000-MW MHD COUPLED REACTOR OPERATING AT A GAS DUTLET TEMP. OF 2273DEGREESK AT A HEAT RECOVERY OF 90-3PERCENT: INCREASING THE INLET PRESSURE FROM 30 TO 60 ATH REDUCED CAPITAL INVESTMENTS BY SIMILAR TO 25PERCENT AND THE COST PER KH-HR BY SIMILAR TO LIPERCENT.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"



CIRC ACCESSION NO--APOISSOCI

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1327

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

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STEP NO--UR/0366/70/006/005/0942/0947

HROCESSING DATE--20NOV76 2/2 010 UNCLASSIFIED CIRC RECESSION NO--APOISSOOL ABSTRACT/EXTRACT-- (U) GP-0- ABSTRACT. THE TITLE REACTION IS STEREGSPECIFIC. THUS, ME CIS, OCTADEC, 6, ENGATE OXIDE ICIS 1) GAVE THE THREDISCHER AND TRANS I GAVE ERYTHRO, ISOMER OF ME LCH SUB2) SUB10 CH(CB)CH(L SUB2 CCCL SUB3)(CH SUB2) SUB4 CO SUB2 ME (II). THE HYDROLYSIS OF II GAVE THE CORRESPONDING THREE AND ERYTHRED ACTUS. THREE IL ISCMEN REACTED WITH MEON IN THE PRESENCE OF HOLIG) TO GIVE TOPERCENT 2.METHOXY, 2 (TRICHLORUMETHYL), 5, UNDECYL, 4, (4. CARBONETHOXYOUTYL), 1, 3, 010 XULANE (111). THE ALK. HYURULYSIS OF ILI GAVESITS 4, CARBOXYBUTYL ANALOG. THE ACID HYDROLYSIS OF III GAVE THE THREE ISOMER OF MEICH SUBSI SUBIO CHI(UH) CHICH (CH) (CH SUBS) SUB4 CO SUB2 H CIVE THE ALK. METHANGLYSIS OF THREU.II ISCHER GAVE 4. (A CARBEMETHOXYBUTHL) S.UNDECYCL. 1, 3, 010XULAN, 2, ONE WHICH UNDER SEVERE FACILITY: LEMINGRAD. GOS. UNIV., HYDROLYSIS CONDITIONS GAVE IV. LENTNERAD. USSR. JAGUASS I FILED

1/Z 010 UNCLASSIFIED . PROCESSING DATE--160CT70 TITLE -ANALYSIS OF IMPURITIES IN GASES -U-

AUTHOR (05)-RYBIN, E.N., KOGAN, YA.I., KOZHEVNIKOV, A.G., LYUSBAKUNIN,

COUNTRY OF INFO--USSR

SOURCE-U.S.S.R. 262,484

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--26JAN70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHENICAL PATENT, AMINO ALCOHOL, CHEMICAL PURITY, GAS ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1994/0182

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0114568

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

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UNCLASSIFIED PROCESSING DATE-18SEP70
TITLE-ABSORPTION SPECTRA AND SIZE OF COLLODAL CENTERS IN SOCIUM AND
POTASSIUM CHURIDE CRYSTALS -UAUTHOR-105)-SHVARTS, K., EKMANIS, YU.A., UDDD, V.V., LYUSHINA, A.F.,
TILIKS, YU.YE.
COUNTRY OF INFO--USSR

SOURCE-FIZ. TVERD. TELA 1970, 12(4) 879-84

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--ABSORPTION SPECTRUM, SODIUM CHLORIDE, POTASSIUM CHLURIDE,
OPTIC PROPERTY, CRYSTAL STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1988/0580

STEP NO--UR/0181/70/012/003/0379/0884

CIRC ACCESSION NO--APO105563

____UNCLASSIFIED

022 PROCESSING DATE--18SEP70 UNCLASSIFIED 2/2 CIRC ACCESSION NO--AP0105563 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. COLLOIDAL CENTERS WERE INVESTIGATED IN ELECTROLYTICALLY COLORED NACL AND KCL CRYSTALS WITH THE APPLICATION OF OPTICAL. ELECTRON MICROSCOPIC, AND CHEM. METHODS. COMPARSION OF THE EXPTL. ABSORPTION SPECTRA OF COLLOIDAL PARTICLES WITH THOSE CALCO. BY THE MIE THEORY WITH THE ACCOUNT OF EXPTL. DISTRIBUTION OF THE PARTICLES OVER DIMENSIONS FOR NACL AND KCL CRYSTALS GAVE A GOOD COINCIDENCE. THIS IS A DIRECT PROOF OF THE VALIDITY OF THE MIE THEORY FOR THE DESCRIPTION OF OPTICAL PROPERTIES OF COLUDIDAL PARTICLES IN IDNIC CRYSTALS. THE COLLOIDAL CENTERS WITH RADIUS GREATER THAN 600 ANGSTROM ARE REPRESENTED WEAKLY IN THE OPTICAL SMECTRUM, THOUGH SUCH PARTICLES IN ELECTRON MICROSCOPIC INVESTIGATION WERE DBSD. IN ALL CRYSTALS. COLLOIDAL PARTICLES ARE QUITE UNIFORMLY DISTRIBUTED OVER THE CRYSTAL, AND MORE SO IN NACL THAN IN KEL CRYSTALS.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

UDC 518:517.944/.947

LYUSIN, O. B.

"Convergence of the Method of Continuous Dispersion of Boundary Conditions When Solving the Poisson Equation"

Riga, Vychisl. tekhn. i kravevyye zadachi -- Sbornik (Computers and Boundary Problems -- Collection of Works), No 10, 1970, pp 3-9 (from Referativnyy Zhurnal -- Matematika, No 7, July 71, Abstract No 78946, by I. Shelikhova)

Translation: The solution of Poisson's equation along m straight lines parallel to the X-axis and drawn with an interval h_k is determined in an orthogonal region. The system of differential-difference equations obtained by applying the straight line method to the initial boundary value problem is represented in the form of k systems of the same kind with fixed h_k , which are successively solved by the dispersion method from k=1 to k=n (the solutions of the k-th system are used in solving the k+1-th system). Conditions are obtained and the convergence of the algorithm described is proven. An evaluation of the maximum error of the s-th approximation is obtained. Based on the maximum principle, an evaluation is obtained for the error in the solution of the differential-difference system as applied to the initial problem.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

USSR

UDC 531.1

KOSHLYAKOV, V. N., LYUSIN, YU. B., and CHICHINADZE, M. V., Moscow

"Ballistic Deviations of a Correctable Gyrocompass"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Tverdogo Tela, No 4, Jul-Aug 73, pp 105-111

Abstract: The authors study the ballistic deviations of a correctable gyro-course-indicator with a fluid-torsion suspension of the sensing element. In contrast to the view where it is accepted that the orientation of the main axis of the gyroscope corresponds to the presence of a small velocity deviation, the authors analyze a case where the correcting moments are selected in such a way that in undisturbed motion they correspond to the orientation of the gyroscope axis in the plane of the real meridian, while they correspond to the orientation of the equatorial plane of the tracking sphere of the unit in the plane of the real horizon. Formulas are given for the various parts of the gyro-course-indicator. These are given within the framework of precession theory. The unit itself is described in earlier literature.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

Mechanical Properties

USSR

UDC 537.32

DUDKIN, L. D., ZYKOVA, N. P., and LYUSKIN, S. N.

"Anisotropy of the Electrical Properties of Low-Temperature Thermoelectric Materials"

Moscow, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, pp 127-128

Abstract: In connection with the fact that powder metallurgy methods are possible procedures in manufacturing thermocouples, the authors have investigated the procedures in manufacturing thermocouples, the authors have investigated the anisotropy of the slectrical characteristics in pressed samples, the creation of whose texture is determined by the anisotropy of the mechanical properties. It whose texture is determined by the anisotropy of the peculiarities of their crystal and (Bi, Sb)2Te3 -- p-type -- on the basis of the peculiarities of their crystal chemical structure, have an anisotropy of electrical and thermal conductivity at room temperature both in monocrystalline and polycrystalline pressed samples. The thermoelectric efficiency z in the direction of the layers (the direction perpendicular to at. This pendicular to pressing) is higher than in the direction perpendicular to at. This also determines the directionalness of operations connected with optimizing the thermoelectric effectiveness of these materials and converters. The variation in themperature dependence of the anisotropy of the thermoelectric characteristics of the indicated materials to the temperature of their practical utilization

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

DUDKIN, L. D., et al, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, pp 127-128

(330°C) was investigated. The results of this study are presented in graphical form. Both for electron and hole materials the anisotropy is retained throughout the entire investigated temperature range. The essential result of the study was confirmation of the anisotropy of the thermal emf in p-type materials in the natural conductivity range (increase in thermal conductivity as a result of bipolar diffusion indicates the occurrence of natural conductivity above 100°C). At the same time, the thermal emf of the electron material is, in practice, isotropic in the entire investigated temperature range. A figure is also presented showing the temperature dependence of anisotropy of the thermoelectric properties of low-temperature materials calculated on the basis of the results of the investigation. The essential changes in anisotropy of the thermoelectric properties of the low-temperature materials indicate that the optimal crystallographic direction of utilization of anisotropic thermoelectric materials cannot be adequately judged from the data for one temperature.

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PROCESSING DATE--18SEP70 TITLE--ANISOTROPY OF THE ELECTRICAL PROPERTIES OF LOW TEMPERATURE

UNCLASSIFIED

THERMOELECTRIC MATERIALS -U-AUTHOR-CO2)-DUDKIN, L.D., LYUSKIN, S.N.

COUNTRY OF INFO--USSR

SOURCE-IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(11 127-8

DATE PUBLISHED ---- 70

SUBJECT AREAS -- CHEMISTRY, PHYSICS

TOPIC TAGS-ELECTRIC PROPERTY, SELENIDE, ANISOTROPY, THERMAL EFFECT, THERMOELECTRIC PHENOMENON, LOW TEMPERATURE PROPERTY, THERMOCOUPLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1984/0147

STEP NO--UR/0363/70/006/001/0127/0123

CIRC ACCESSION NO--AP0054943

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

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PROCESSING DATE--185EP70 UNCLASSIFIED 029 CIRC ACCESSION NO--AP0054943 ABSTRACT. LOW TEMP. THERMO ELEC. MATERIALS, ABSTRACT/EXTRACT-- (U) GP-0-N TYPE BI SUB2 (TE, SE) SUB3 AND P TYPE (BI,SB) SUB2 TE SUB3, WERE STUDIED. THE CHANGE IN THE TEMP. DEPENDENCE OF THESE MATERIALS TO THE TEMPS. AT WHICH THEY ARE USED IN PRACTICE (3000 EGREES) WAS EXAMD. FOR THIS PURPOSE, PRESSED N AND P TYPE SAMPLES, 10 TIMES 10 TIMES 10 MM, WERE PREPD., AND THE THERMAL EXPANSION COEFF. (ALPHA), THERMAL COND. (KAPPA). AND ELEC. RESISTIVITY PARALLEL AND PERPENDICULAR TO THE PRESSING DIRECTION WERE MEASURED AT ROOM TEMP. TO 3500EGREES USING AN FOR BOTH TYPES OF APP. ANALOGOUS TO THE PREVIOUSLY DESCRIBED ONE. MATERIALS. ALPHA AND KAPPA REMAIN THE SAME OVER THE ENTIRE TEMP. RANGE EXAMD. A SIGNIFICANT RESULT OF THE PRESENT INVESTIGATION IS THE FINDING OF ANISOTROPY IN P TYPE MATERIAL WITHIN THE INTRINSIC REGION. AT THE SAME TIME, THE THERMAL EMF. OF THE N TYPE MATERIAL IS PRACTICALLY ISUTRUPIC OVER THE ENTIRE TEMP. RANGE INVESTIGATED. SOME EXPLANATION IS OFFERED FOR THE PHENOMENA OBSD. ROOM TEMP. DATA ARE NOT SUFFICIENT TO CHARACTERIZE THERMOELEC. MATERIALS RELATIVE TO THEIR THERMAL AND ELEC. PROPERTIES. BUT SUCH PROPERTIES SHOULD BE MEASURED ALSO AT ELEVATED TEMPS.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--RHEOLOGICAL FROPERTIES OF A RUNGALITE HELT -U-

AUTHOR-104)-BUDANOV, V.V., LYUSKIN, V.K., MAYOROVA, S.A., BOLESLAVSKAYA,

COUNTRY OF INFO--USSR

SOURCE-IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 233-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FORMALDEHYDE, SODIUM COMPOUND, THIXOTROPE, VISCOMETER, FLUID VISCOSITY

CONTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRANE--3005/0175

STEP NO--UR/0153/70/013/002/0233/0236

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CIRC ACCESSION NO--ATO132452

UNCLASSIFIED

PROCESSING DATE--04DEC70 UNCLASSIFIED 2/2 013 CIRC ACCESSION NO--AT0132452 ABSTRACT. RHEDLOGICAL DATA AT 70-90DEGREES ABSTRACT/EXTRACT--(U) GP-0-ARE GIVEN FOR RONGALITE MELTS CONTG. VARYING RATIOS OF NAHSO SUB2 .CH SUB2 0 TO NAHSO SUB2 CH SUB2 0.2H SUB2 D AS DETO. IN A ROTATING CYLINDER VISCOMETER. HYSTERESIS LOOPS ARE OBSD. IN LOAD RMP PLOTS AND ARE INTERPRETED AS INDICATING A THIXOTROPIC CHARACTER. THE LOG OF THE BINGHAM VISCOSITY AND THE YIELD VALUE OF THE MOLTEN PRODUCTS ARE LINEARLY DEPENDENT ON THE CONCH. OF NAHSO SUB2 . CH SUB2 O IN THE MELT. EMPIRICAL EQUATIONS ARE DEVELOPED FOR THIS RELATION, WHICH MAY BE USED IN A VISCOMETRIC METHOD FOR DETG. THE H SUB2 9 CONTENT OF A MELT. IVANOV. KHIM.-TEKHNOL. INST., IVANOVO, USSR. UNCLASSIBLED

UDC: 513.83

LYUSTERNIK, L. A.

"Topological Fundamentals of the General Theory of Eigenvalues"

Moscow, Uspekhi Matematicheskikh Nauk, Vol 25, No 4, July-August 70, pp 19-22

Abstract: This is a translation of the article published by the author in the Monatshefte für Math. und Phys. (37 (1930) by 125-130) under the title "Topologische Grundlagen der Allgemeine Eigenwerttheorie." The eigenvalue of numbers λ_i (1 < i < n) is defined as the minimum of the number of maxima of form F of spheres of class (M_{i-1}) ; where F is a quadratic form of n variables, and (M_{i-1}) is the class of all i-dimensional spheres of radius 1 (0 < i < n). The humbers λ_i have the following characteristics: they are critical values of form F if the latter is considered to be a function defined in terms of the M_{n-1} ; if $\lambda_i = \lambda_{1+p}$, the continuum of critical points of form F corresponds to this critical value. The purpose of this article is to generalize this theory of eigenvalues for arbitrary continuous functions with continuous second-order partial derivatives, defined by an arbitrary differentiable manifold.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

USSR

LYUSTERNIK, L. A.

"A Homogeneous Case in Queueing Problems with a Linear Condition"

Mat. vopr. upr. proiz-vom [Mathematical Problems of Production Control -- Collection of Works], No 5, Moscow, 1973, pp 18-23 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V57 by A. Fal')

Translation: An equation in partial derivatives is written for a Poisson random walk function in a homogeneous queueing problem with a linear condition. It is demonstrated that in certain cases this equation can be reduced to a Laplace equation.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

USSR

ZALYAPIN, V. I., LYUSTERNIK, L. A.

"One Class of Problems from Queueing Theory with Linear Couplings"

Mat. vopr. upr. proiz-vom [Mathematical Problems of Production Control -- Collection of Works], No 5, Moscow, 1973, pp 13-17 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V56 by the authors)

Translation: The works of L. A. Lyusternik (RZHMat, 1969, 3V39; 1971, 2V48) have studied one queueing problem in which the input flows are coupled by a certain linear relationship. This report discusses certain generalizations of the plan of linear couplings between input flows which are possible from the standpoint of problems in queueing theory.

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HISSR

UDC 519.9+517.5

LYUSTERNIK, L. A.

Problem in Queueing Theory and Generalized Cylindrical Functions [1], [2]"

Moscow, Uspekhi Matematicheskikh Nauk, Vol 25, No 4, July-August 70, pp 11-18

Abstract: The problem considered in this paper is that of "taxi and passengers," connected with functions considered as the multidimensional analogs of cylindrical functions. These latter functions, in turn, are connected with transformations of an n-dimensional space of a nonquadratic metric which, in a known sense, tions of an n-dimensional space of a nonquadratic metric which, in a known sense, is analogous to a hyperbolic plane. The vectors of this space form a system of hypercomplex numbers analogous to hyperbolic complex numbers. The author begins his computations by considering the problem of "an assembly of n components," of which the "taxi and passengers" problem is a special case, for n = 2. The two references indicated in the title are papers written by the same author dealing with other aspects of the same problem in queueing theory.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

UDC 678.746.2-136.622-9:66.094.532.2

PASHKOV, A. B., SLABKAYA, L. D., LYUSTGARTEN, YE. I., and LEGOTINA, A. B.

"Phosphoric Acid Cation Exchange Resins of Macroporous Structure"

Moscow, Plasticheskiye Massy, No 7, Jul 70, pp 9-11

Abstract: The authors investigated the process of the phosphorylation of macroporous copolymers of styrene with divinylbenzene of varying porosity. A kinetic study of the phosphorylation of copolymers of gel and macroporous structure showed the advantage of the latter for and macroporous structure showed the advantage of the latter for polymer-analogous transformations. The phosphorus-containing groups were introduced into the copolymer matrix by the Friedel-Crafts reaction by phosphorylation of the copolymer with phosphorus trichloride in the presence of anhydrous AlCl₃ in a tetrachloroethane medium with subsequent oxidative hydrolysis of the product with a copolymer:AlCl₃: PCl₃ molar ratio of 1:1:3. The optimal phosphorylation conditions were established. The phosphorus content of the phosphorylated copolymer specimens was determined calorimetrically by YE. N. ZELENINA.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

UDC: 546.821'17:535.34

ZHURAKOVSKIY, YE. A., NIKITIN, L. V. and LYUTAYA, M. D., Institute for Problems of Material Science, Academy of Sciences Ukrainian SSR

"X-Ray Spectra and Electron Structure of Titanium Nitrides of Limit Composition and Within the Homogeneity Region"

Moscow, Izvestiya Akademii nauk SSSR, Neorganicheskiye materialy, Vol 8,

Abstract: In addition to their great practical significance, titanium nitrides are of theoretical interest as compounds of variable composition with a wide homogeneity range. The existence of such compounds in a number of systems has as yet not been satisfactorily explained and is among the central problems of the physics and chemistry of solids. This study concerns the x-ray K- and L , emission spectra and K absorption II 11

spectra of titanium in titanium nitrides of critical composition and within the homogeneity region (Ti_2N and $\text{Ti}_{0.60}$ -- $\text{Ti}_{1.6}$). For nitriding, use was

made of 99.85 pure titanium powder with a maximum particle size of hO u.

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ZHURAKOVSKIY, YE. A., et al, Izvestiya Akademii nauk SSSR, Neorganicheskiye materialy, Vol 8, No 4, Apr 72, pp 708-713

The K-emission spectra were obtained by fluorescence using a modified DRUS unit. The optimum K-edge density of 5 mg/cm² was maintained constant over the entire series of homogenous nitrides ${\rm Ti}_{1-x}$ and ${\rm Ti}_{1}N$. An HSM-500 unit

was used to obtain ultra-soft L emission spectra of Ti in titanium

structure and on data of quantum-mechanical computations by Bilz and Ern-Switendick, a chart is proposed for the redistribution of electron states of rarious symmetry in the spd-valence zone of Til crystals of variable

composition. The general nature of interactions in nitrides of critical composition of Ti₂N and TiN is discussed. The electron structure is correlated with the properties of titanium nitrides of limit composition and within the homogeneity region. (1 illustration, 2 tables, 24 bibliographic references).

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

1/2 007 UNCLASSIFIED TITLE-POLYAMMONIATES OF GALLIUM HALIDES -U-

PROCESSING DATE--27NOV70

AUTHOR-102)-LYUTAYA, M.O., CHERNYSH, I.G.

COUNTRY OF INFO--USSR

SOURCE-U.S.S.R. 264,371
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZISY, TOVARNYE ZNAKI 1970, 47(9)
DATE PUBLISHED--O3MAR70

SUBJECT AREAS -- CHEMISTRY

TOPIC TAGS--GALLIUM CHLORIDE, BROMIDE, AMMONIUM COMPOUND, AMMONIUM HALIDE

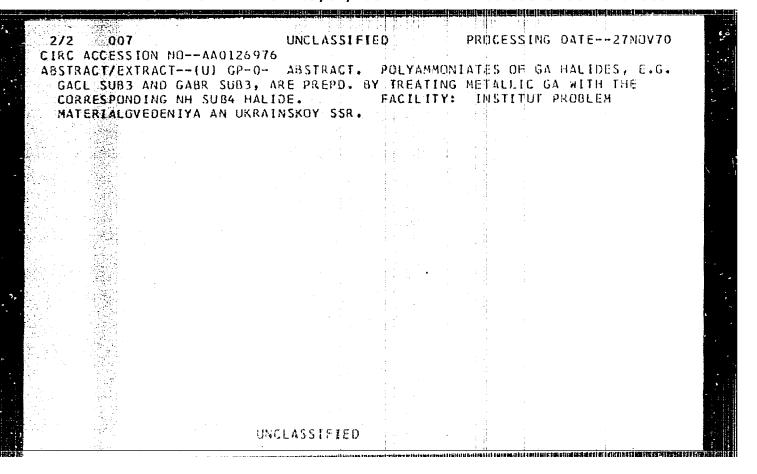
CONTROL MARKING -- NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3001/1449

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0126976

UNGLASSIFIED



1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70 TITLE--THERMAL DECOMPOSITION OF NITRIDES OF SOME TRANSITION METALS IN AIR -U-

AUTHOR-103)-LYLLAYA, M.D., KULIK, O.P., KACHKOVSKAYA, E.T.

COUNTRY OF INFO--USSR

SOURCE-POROSH. MET., AKAD, NAUK UKR. SSR: NO. 3, 72-5

DATE PUBLISHED ---- MAR 70

SUBJECT AREAS -- CHEMISTRY, MATERIALS

TOPIC TAGS-THERMAL DECOMPOSITION, TRANSITION METAL, TITANIUM, NITRIDE, ZIRCONIUM NITRIDE, VANADIUM, HAFNIUM, CHROMIUM

CONTROL MARKING--NO RESTRICTIONS

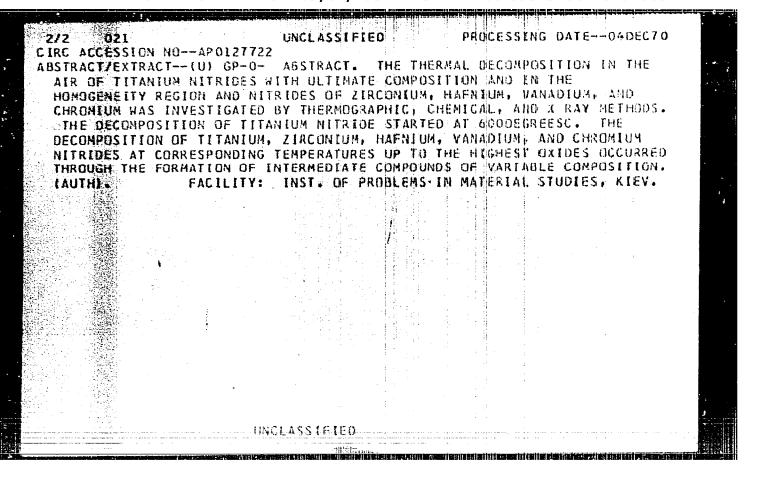
DOCUMENT: CLASS--UNCLASSIFIED PROXY REEL/FRAME--3002/0096

STEP NO--UR/0226/T0/000/003/0072/0075

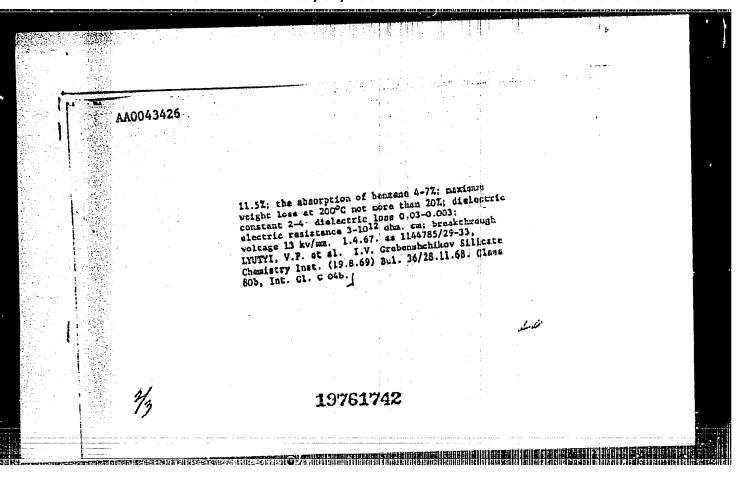
CIRC ACCESSION NO--AP0127722

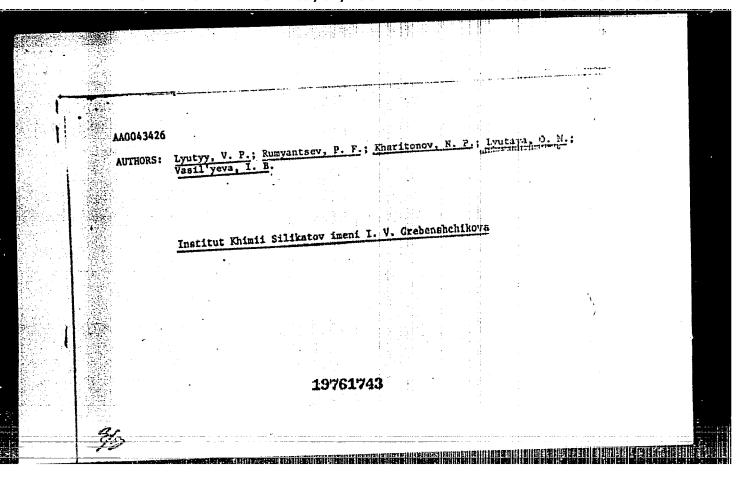
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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"



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Soviet Inventions Illustrated, Section I	Chemical, Derwent,
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UDC: 621.384.2

USSR

LYMPENKO. V. F., YEGOROV, G. A., Yakutsk Affiliate of the Institute of Physical Space Research and Aeronomy, Siberian Department, Academy of Sciences of the USSR

"A Device for Measuring the Summation Current of Signals"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 1. Mar 72, Author's Certificate No 329487, Division G, filed 21 Jul 70, published 9 Feb 72, p 182

Translation: This Author's Certificate introduces a device for measuring the summation current of signals. The device contains a pickup, a storage capacitor, a discharge resistor, a discriminator and a program device. As a distinguishing feature of the patent, linearity of summation is ensured by connecting the pickup to the input of a voltage repeater whose output is connected to the discriminator and the input of a commutator. Another input of the commutator is connected to the program device, and the commutator output is connected through the discharge resistor to the voltage repeater.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

UDC 66.028.08

USSR

LYMPALIYEV, K. A., and ISMATLOV, I. M.

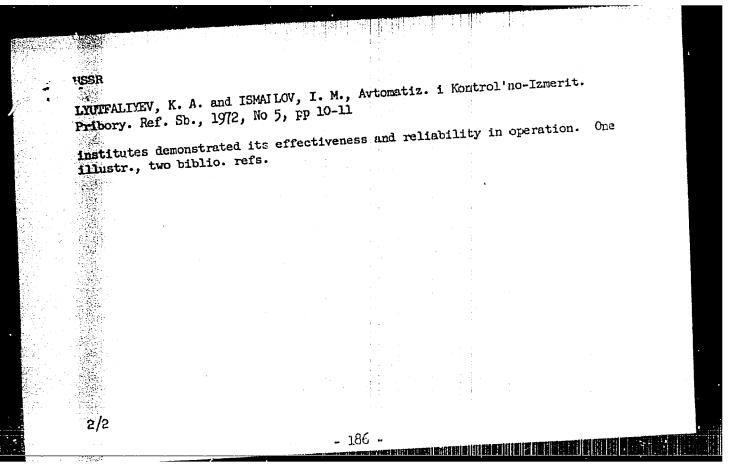
"Apparatus for Microdosing Low-Boiling Liquids"

Avicamatiz. i Kontrol'no-Izmerit. Pribory. Ref. Sb. [Automatized and Control-Measuring Apparatus. Reference Collection), 1972, No 5, pp 10-11 (from Referativnyy Zhurnal, No 10, Oct 72, 32. Wetrologiya i Izmeritel naya Tekhnika. Single Issue. Abstract No 10.32.925 by V. S. K.)

Translation: A microdosing apparatus of low-boiling liquids has been developed in the Institute of Petrochemical Processes of the Academy of Sciences of the Azerbaydzhan Soviet Socialist Republic. The working of the microdosing apparathis is based on the displacement of the dosed product by gases escaping during the electrolysis of water, it is characterized by absence of moving components in it. The microdosing apparatus consists of a stabilized power source, an electrolyzer, and a microburet, connected to one another through a microsection. The electrolyzer is filled with a 30% aqueous solution of potassium hydroxide, and the dosed liquid is flushed into the microburet. To exclude an effect of the counterpressure of the system on microdosing, a copper tube with a needle From a medical injector is fixed on the end of the microburet. The service experience of the microdosing apparatus in a series of scientific-research 1/2

CIA-RDP86-00513R002201910002-4" APPROVED FOR RELEASE: 09/01/2001

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UDC 547.426.2

USSR

KAPLUN, A. P., KABANOVA, M. A., LYUTIK, A. I., SHVETS, V. I., and YEVSTIGNEYEVA, R. P., Moscow Institute of Fine Chemical Technology Imeni M. V. Lomonosov

Study in the Area of Complex Lipids. Synthesis of Phospholidylethanolamines
Based on 1,2-di-0-Acyl-sn-Glycerines"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 8, Aug 73, pp 1839-1844

Abstract: The synthesis of 0-(1,2-di-0-palmitoyl-sn-glyceryl-3-0-phosphoryl)ethanolamine was carried out starting with a 1,2-diglyceride and using 2phtalimidoethyldichlorophosphate and 2-chloromethyl-4-nitrophenyldichlorophtosphate as the phosphorylation agent. An effective method was developed
phosphate as the phosphodiester structure based on the model of phosphafor the formation of phosphodiester structure based on the model of phosphatidylethenolamine obtained from phosphatidylancids and substituted ethanolatines or from ethanolamine phosphates and 1,2-diglycerides in presence of
maitylenesulfohylchloride.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

SHEVCHENKO, A. S., ANDRIYEVSKY, R. A., KALINEN, V. P., and LYUTIKOV, R. A., Moscow

"Study of the X-Ray and Pycnometric Density of Interstitual Phases on a Zirconium Base"

Kiev. Academy of Sciences Ukr SSR, Poroshkovaya Metallurgiya, No 1, Jan 70, pp 89-91

Abstract: The results of an investigation of the X-ray (Yr) and pycnometric (Y) density of nitrides, carbides, hydrides, and parho- and nitrohydrides of zirconium in a homogeneous field are presented. The density was measured on a vacuum pycnometer using ethyl alcohol. The measurement error was about 0.5%, and the scattering of experimental data on Yp not more than 1 0.02 g/cm³. and the scattering of experimental data on Yp not more than 1 0.02 g/cm³. Electrolytic zironium powder was used as the primary material. It was Electrolytic zironium powder was used as the primary material. It was saturated with high purity nitrogen at 1300-1800°C for the preduction of saturated with high purity nitrogen at 1300-1800°C for the preduction of saturated with high purity nitrogen at 1300-1800°C for the preduction of bides were produced by a two-step synthesis of zirconium powder with graphite bides were produced by a two-step synthesis of zirconium powder with intermediate pulverization.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

USSR

SHEVCHENKO, A. S., et al, Porosakovaya Metallurgiya, No 1, Jan 70, pp 89-91

The ternary compounds were synthesized from 2r - 2rN and 2r - 2rC mixtures in a hydrogen medium at 900-1000°C. The variation in lattice parameters with the composition of the zirconium carbides and nitrides is presented in a table. On the basis of the results obtained it can be assumed that the defects of carbides, hydrides, and carbo- and nitrohydrides result from the incompleteness of the nonmetallic sublattice. In mirconium nitrides with a high content of normetallic impurities, the discrepancy between Yr and Y, may be due to the defect of the metallic sublattice, which disappears with increased material purity. Orig. art. has: 1 table and 13 references.

CIA-RDP86-00513R002201910002-4" **APPROVED FOR RELEASE: 09/01/2001**

UNCLASSIFIED PROCESSING DATE--230CT7(1/2 021 TITLE STEUBILITY OF ZIRCONIUM, NIOBIUM, AND MOLYBDENUM IN ALPHA URANIUM

AUTHOR-(03)-GOMOZOV, L.I., LYUTINA, E.M., IVANOV, O.S.

COUNTRY OF INFO--USSR

SOURCET MOSCOW. IZVESTIVA AKADEMII NAUK USSR. METALLY, NO 2. MAR-APR 70, PP 210-215 DATE PUBLISHED----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SOLUBILITY, ZIRCONIUN CONTAINING ALLOY, NIOBTUM CONTAINING ALLOW MOLYBDENUM CONTAINING ALLOY, URANIUM ALLOY, ENTHALPY, GRAIN SIZE METAL RECRYSTALLIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1997/1601

STEP NO--UR/0370/70/000/002/0210/0215

CIRC ACCESSION NO--APO120366 UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--230CT7

CIRC ACCESSION NO--APOL20366 ABSTRACT. A SERIES OF URANIUM ALLOYS, ABSTRACT/EXTRACT--(U) GP-0-CONTAINING FROM 0.05 TO 2 AT . PERCENT OF ZIRCONKUM, NIOBIUM OR MOLYBDENUM, WERE MELTED TO DETERMINE TO SOLUBILITY OF THESE ALLOYING ELEMENTS IN URANIUM ALPHA-PHASE AT 550-660DEGREESC. OBTAINED WERE SUBJECTED TO HOMOGENIZING ANNEALING FOR 50 HR AT 950DEGREESC, QUENCHED IN WATER, AND COLO ROLLED WITH REDUCTIONS OF THE PREPARED SPECIMENS WERE ANNEALED AT 550-660DEGREESC FO 240-180 HR, AND SUBSEQUENTLY COOLED IN WATER. IT WAS FOUND THAT THE SOLUBILITY OF THESE ELEMENTS IN THE URANIUM ALPHA-BASE DECREASES WITH INCREASING ANNEALING TEMPERATURE, AND IN ANY CASE DOES NOT EXCEED 0.5 A . PERCENT. THE RELATIVE PARTIAL ENTHALPIES OF SOLUTIONS OF ZIRCONIUM, NIGBIUM AND MOLYBOENUM ARE 15, 20.8, AND 36.8 KGAL-GAT, RESPECTIVELY. INTRODUCTION OF UP TO 0.2 AT . PERCENT OF THE ABOVE MENTIONED ELEMENTS INTO URANIUM LEADS TO A RAPID DROP OF RECOVERY RATE DURING ANNEALING AFTER COLD DEFORMATION, AND TO REDUCTION OF GRAIN SIZE TO 15-25 MICRONS DURING RECRYSTALL IZATION.

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USSR

UNG: 621.373:530.145.6

LYUTOV, V. I., SAMOKHINA, N. V.

"Investigating the Generation Process in CO2 Lasers With Pulse Excitation"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazoragryadn. pribory (Electronic Engineering, Scientific-technical Collection, Gas Discharge Devices) 1970, No. 3(19), pp 25-27 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D249)

Translation: Results are given of an experimental investigation of the dynamics of generation development in CO2 lasers with a powerful excitation pulse. Estimates are made through which the experimentally observed shape of the radiation pulse is qualitatively explained. Author's abstract

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UDC 669.715'5'721:620.193.4

KAREVA, A. P., KLEPTSOVA, I. S., LYUTOVA, I. S., RYAZHSKAYA, T. K.

"Study of the Relation between the State of the Alloy of the Al-Zn-Mg System, Its Electrochemical Potential, and the Corrosion Resistance of the Intermediate Products"

V sb. Metallovedeniye (Physical Metallurgy -- collection of works) Sudostroveniye Press, 1971, pp 133-136 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 41679)

Translation: A study was made of the results of comparative studies of the electrochemical potentials of the alloy of the Al-Zn-Mg system in different states. The dependence of the potential on the heating temperature for quenching, annealing, and welding was established. The results of studying the variation of the electrochemical potential during the process of aging the alloys are confirmed by corrosion testing at the laboratory and under natural conditions. Recommendations are made with respect to selecting the heat treatment conditions of the alloy for which corrosion decreases in the weld-affected zone.

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•		respectably frequently in specimens alloyed with spinsony. The additure profile in region 2 is described an existence by the diffusion equations with effective coefficients the values of which under various crystalitation conditions are essentially different. However, the purely diffusion mechanism of the forestion of the profiles will be doubtful in convection with the fact that the metallurgical thickness of the epicarial layers defined experimentally by the packing defects does not coincide with the thickness corresponding to a concentration of My 2 which was assumed in the estetistions. The contribution of the diffusion and segregation phenomena to the distribution profile of the admixture in region 2 is discussed. — 133 —	in order to determine the distribution profiles of the admixture concentration, the procedure of layered neutron-ectivated mulysis was used. It was demonstrated that the admixture profiles in the investigated purply was used. It was demonstrated that the admixture profile in the investigated specimen is characterized by the presence of two meetions: I — the section with uniform conventration distribution (the plateau), 2 — the section where the admixture encentration is nouniform. Depending on the growth conditions the ratio of the strent of themse sections varies. By using the concentrations of the admixtures in the plateau region, we defined the effect of the trystallization described the concentration of the Story, and Story in the gravitation of the concentration of the solitation of the Story in the case of low concentration of silicon tetrachloride in the ray phase in some selected the concentration of silicon tetrachloride in the ray phase in some selected the concentration absent. In a number of specimens, a sharp increase a solutive concentration is noted in the thin surface layer. This is coherent substate the concentration is noted in the thin surface layer. This is coherent	iterticle by A. S. Lyuturich, V. P. Pashiudenio, V. V. Kharchanko, L. E., Nhodiha-khamdov, Sh. Sh. Shasaldov, Tankkant, Housesbirsk, III Sirpotium po frotsessani himmov, Sh. Shasaldov, Tankkant, Housesbirsk, III Sirpotium po frotsessani Binka i Sinkaza foliuprovodnikorykh Kristallov I Planck. Russian, 12-17 June 1973 po 1291 The idea of this experiment consisted in using alloying admixtures of warious president nature and varying the crystalliastion conditions to assimate the constitution of the graph (segregation) effects and the diffusion processes the constitution of the graph (segregation) of SICI, in a briest concentration was obtained by the method of hydrogan recording of SICI, in a briest concentration and structures were	4 7"5 When the distribution of alloying admixing in epitaxial layers the control of alloying admixing the epitaxial layers and the control of alloying admixing the epitaxial layers.	80685
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USSR

PANTELEYEVA, G. V., LYUTOVICH, A. S., CHUPRIKOV, G. Ye., and FROLOV, A. V.

"Structure and Electrophysical Properties of Boron in Crystals Produced
"Structure and Electrophysical Properties of Boron in Crystals Produced
by Crucibleless Zone Melting in a Vacuum and in an Atmosphere of Hydrogen"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 95-79

Translation: Results are presented from a study of the little-studied material, baron, which is being used increasingly for the manufacture of heat-resistant, refractory alloys, as well as for semiconductor devices for operation under high temperature conditions. Metallographic investigations by the method of chemical thermal etching were performed on high-gations by the method of chemical thermal etching in various atmospheres. purity specimens grown by crucibleless zone melting in various atmospheres. The superiority of the structure of boron grown in a vacuum in comparison the that produced in hydrogen is demonstrated. Certain electrophysical to that produced in hydrogen is demonstrated. 2 Tables; 4 Figures; 4 Biblio-properties of boron crystals are studied. 2 Tables; 4 Figures; 4 Biblio-graphic References.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

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UDC:537.226+537.311.33]:539.16.04

ARIFOV, U. A., MIKHAELYAN, V. M., SINYUKOV, V. A., KOROSTELEV, Yu. A., LYUTOVICH, A. S.

"Alloying of Silicon by Bombardment With Thermal Neutrons"

Kristalliz. Tonkikh Plenok [Crystallization of Thin Films -- Collection of Works], Tashkent, Fan Press, 1970, pp. 136-139 (Translated from Referativnyy Zhurnal Fizika, No. 11, 1970, Abstract No. 11 Ye 1100 by T. B. Karashev)

Abstract: Specimens of p-type Si with specific impedence approximately 1200 ohm cm were bombarded by a stream of reactor neutrons $1.8 \cdot 10^{13}$ cm⁻². sec⁻¹ for one hour. After annealing at 800° C for four hours, the bombarded specimens had n-type conductivity and $\rho \simeq 600$ ohm cm. Analysis of the variation, with temperature of concentrations and mobilities of carriers showed that the conductivity resulted from the donor impurity, giving a fine level. The alloying effect is related to the phosphorus formed as

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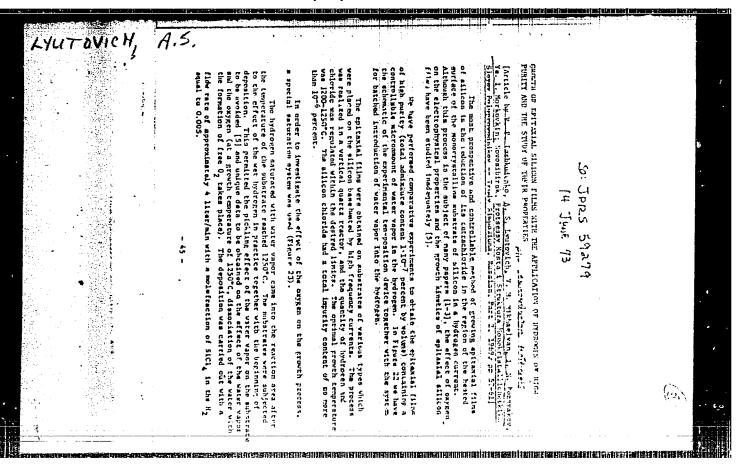
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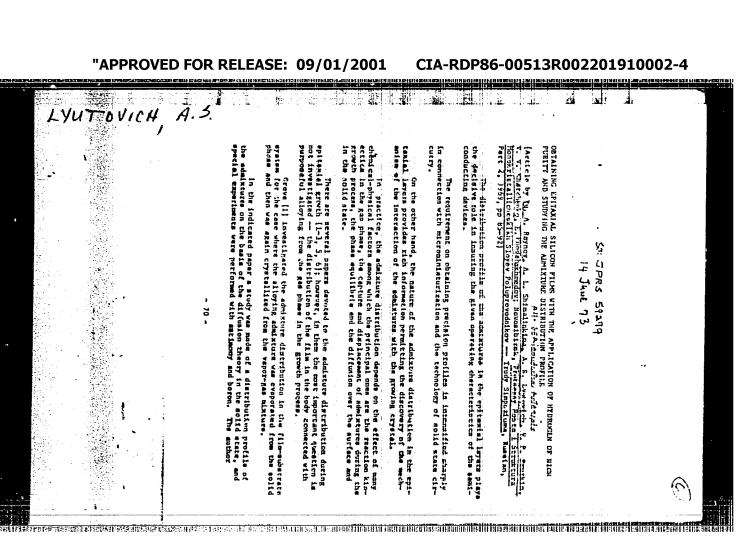
ARIFOV, U. A., MIKHAELYAN, V. M., SINYUKOV, V. A., KOROSTELEV, Yu. A., LYUTOVICH. A. S., Kristalliz. Tonkikh Plenok [Crystallization of Thin Films -- Collection of Works], Tashkent, Fan Press, 1970, pp. 136-139 (Translated from Referativnyy Zhurnal Fizika, No. 11, 1970, Abstract No. 11 Ye 1100 by T. B. Karashev)

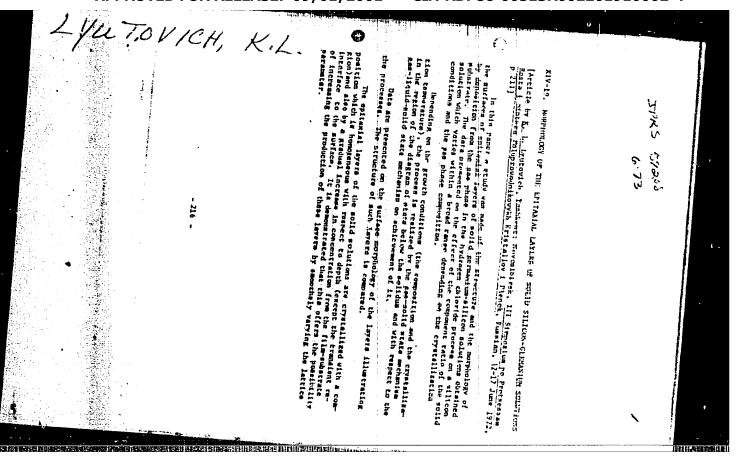
a result of nuclear transformation. The possibility of producing highresistance n-type Si crystals with even volumetric properties by this method is noted; this is difficult to achieve by other methods.

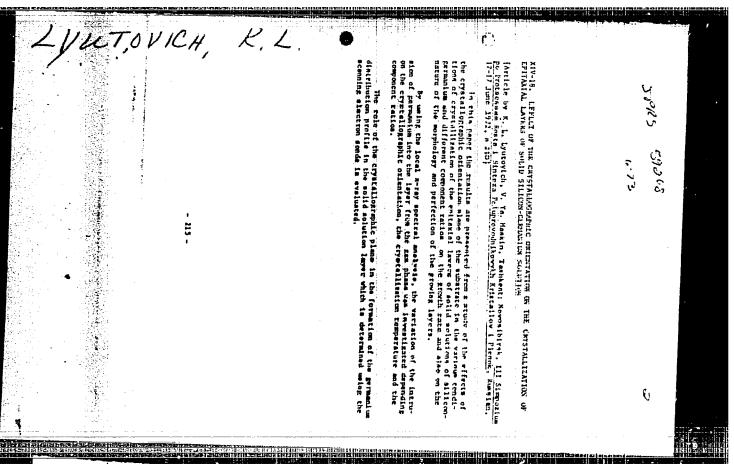
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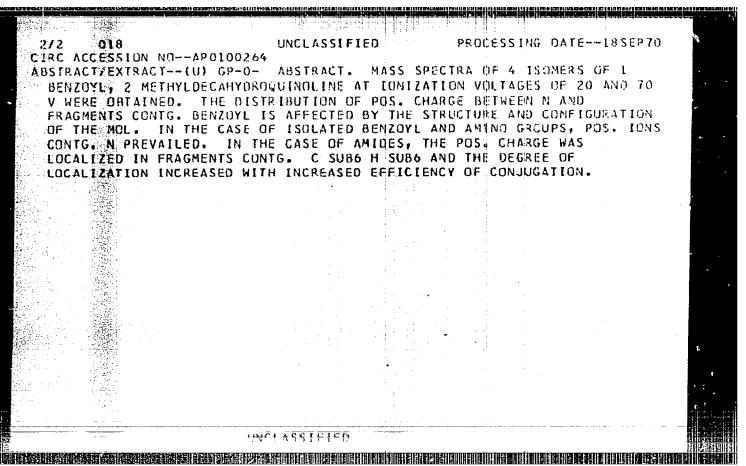
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CIRC ACCESSION NO--AP0100264

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CONJUGATE BOND SYSTEM, ISOMER, IONIZATION POTENTIAL



1/2 008 UNCLASSIFTED PROCESSING DATE-27NOV70
TITLE-RESULTS OF TESTING AN EXCHANGE CAPACITY GAGE FOR FIRST STAGE ANION
EXCHANGE FILTERS -U-

AUTHOR-(D2)-KUZNETSOVA, S.A., LYUTSKO, V.V.

COUNTRY OF INFO--USSR

SOURCE-TEPLOENERGETIKA 1970, 17(5), 57-9

DATE PUBLISHED ---- 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ANION EXCHANGE RESIN, FILTRATION, CHLORIDE, SODIUM COMPOUND/(U) ANZE ANION EXCHANGE RESIN, (U) ANZI ANION EXCHANGE RESIN

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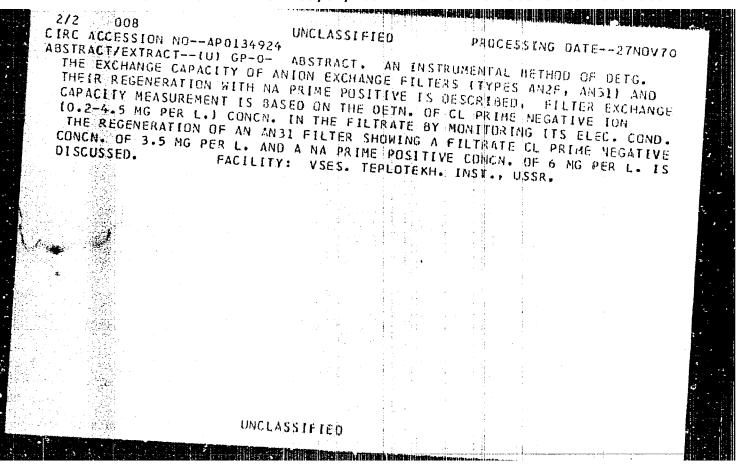
DOCUMENT GLASS--UNCLASSIFIED PROXY REEL/FRAME--3006/1250

STEP NO--UR/0096/70/017/005/0057/0059

CIRC ACCESSION NO--APO134924

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"



UDC 669.25:669.017.3

BOKSHTEYN, S. Z., LYUTTSAU, V. G., RAZUMOVSKIY, I. M., SVETLOY, I. L., and FISHMAN, Yu. M., All-Union Scientific Research Institute of Aviation Materials

"Martensitic Transformation in Cobalt Whiskers"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 6, Jun 72, pp 1277-

Abstract: An x-ray investigation was made of the phase composition and dislocation structure of cobalt whiskers grown by CoBr₂ reduction at 720-760°C. The structures of whiskers in which an incomplete martensitic transformation occurred and the structures of whiskers with mixed phase composition are imperfect. Dislocations with the Buerger vector b=1/3<1i1> lying in planes parallel to the habitus plane in transformation were found in crystals of these whiskers. In whiskers with a mixed phase composition, the dislocations are concentrated in regions retaining the high-temperature modification with a centered cubic structure. Obviously, martensitic transformations can occur in ideal crystals, but structural defects prevent the transformation development accordang to the martensitic mechanism. Three figures, fourteen bibliographic

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UDC 539.4

GUECHENKO, V. M., LYUTTSAU, V. G.

"Structural Changes in the Surface Layers of ShKh-15 Steel Under a Pulsating Contact Load"

Vsb. Vysokoskorostn. deformatsiya (High-Speed Deformation -- Collection of Works), Moscow, "Nauka", 1971, pp 92-95 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V1459)

Translation: The change in the microhardness and structure of surface layers of ShKh-15 steel under a pulsating contact load is discussed. The microstructure and rentgenographic studies showed that processes leading to phase changes, an increase in carbon content, a change in the substructure dimensions, and the development of microstresses reaching 30 kg/mm² is achieved in the zone of the contact spot. The basic change in properties and structure occur under the combined action of tangential and normal forces. Authors abstract.

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UDC 539.4

LYUTTSAU, V. G., BELOUSOV, N. N., and ROVINSKIY, B. M., Moscow

"On the Generation of Micropores in Alloys"

Moscow, Fizika i Khimiya Obrabotki Metallov, No 1, Jan-Feb 71, pp 81-84

Abstract: The microporosity in aluminum alloys was investigated by the X-ray shadow microscopy method. The character and sizes of micropores generating in alloys during the crystallization process and heat treatment were determined. It is demonstrated that an increase of the cooling rate of alloys during the crystallization leads to a decrease in the dimensions of micropores and an increase of their concentrations. The fact was ascertained of the micropore generation in locations corresponding to dispositions of the second phase in alloys by heating and subsequent hardening. Considerations are presented on the mechanism of micropore generation by heat treatment of alloys containing dispersed inclusions of the second phase.

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UDC 539.374

BERNSHTEYN, M. L., LYUTTSAU, V. G., PLATOVA, S. N., LYUTTSAU, A. V., and RIDNITSKIY, YE. N., Hoscow Institute of Steel and Alloys

"Mechanism of Hardening of Steel as a Result of High-Temperature Thermomechanical Treatment"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 36, No 2, 1973, pp 394-399

Abstract: The austenite substructure formed upon hot deformation under conditions of high-temperature thermomechanical treatment, defining the change in the composition of the martensite, is quite stable and is retained for a long period of time after completion of deformation and after secondary heat treatment. Achievement of the optimal combination of mechanical properties as a result of high-temperature Thermomechanical treatment requires that the substructure-formation process develop in such a way that most of the initial high-angle boundaries disappear, so that the entire volume of the metal is filled with subgrains which grow with time. There is a stage of the process (a duration of holding after deformation) such that as the new recrystallized structure is formed by coalescence of subgrains, the old high-angle boundaries disappear completely, while no new high-angle boundaries are yet formed.

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UDC 539.4

LOZINSKIY, M. G., LYUTTSAU, V. G., TANANGV, A. I.

"Details of the Structure of 'White Phases' Formed in the Frocess of High-Speed Collision of Metals"

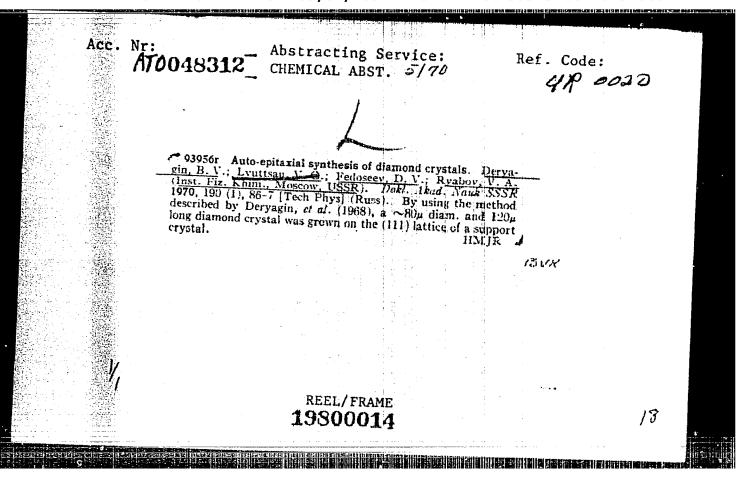
V sb. Vysokoskorostn. deformatsiya (High-Speed Deformation — Collection of Works), Moscow, "Nauka", 1971, pp 88-92 (from RZh-Mekhamika, No 3, Mar 72, Abstract No 3V1466)

Translation: The microstructural characteristics of the structure of a two-layer steel (St 3 + Kh18N10T) plated with the aid of pulse londing are considered. The results of metallographic, x-ray microscopic, and micro-x-ray spectral analysis of the "white phases" formed during high-speed collision of metals are presented. It is shown that the combination of metallographic analysis with x-ray methods makes it possible to obtain new data on the structural characteristics of metals coated with the aid of pulse loading. Authors abstract.

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USSR

UDC: 531.01

GANIYEV, R. F., LYUTYY, A. I.

"Stability of a Gyroscope on a Vibrating Base Under Resonant Conditions"

Kiev, Prikladnaya Mekhanika, Vol 8, No 11, Nov 72, pp 43-50.

Abstract: The problem of the stability of the equilibrium position of astatic and heavy gyroscopes on vibrating bases is studied under resonant conditions. It is demonstrated that the equilibrium position of gyroscope conditions may the unstable with subharmonic or combination resonances. Viscous friction in kinetic moment of the gimbal support is an aid to system stability, while the unstable motion of the gyroscope. The configuration of the glipsoids of influence on system stability.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

USSR

UDC 531.01

GANIYEV, R. F. and LYUTYY, Institute of Mechanics, Academy of Sciences, Brainian SSR (Kiev)

"The Stability of a Biaxial Gyro Gimbal Frame on a Vibrating Pase Under Resonance Conditions"

Kiev, Prikladnaya Mekhanika, Vol 9, No 9, 1973, pp 36-45

Abstract: Consideration is given to the problem of the stability of a free hiaxial gyro gimbal frame on a vibrating base under resonance conditions. The frame consists of two free gyroscopes, connected into a single system. The law of motion of the gyroframe base is assumed to be given, and the gyroframe is assumed to be free and equilibrated. It is shown that the equilibrium position of this gyroscopic system can be unstable at subharmonic and combination resonances. The drift of a biaxial gyroframe during the action of a two-component single-frequency vibration upon its base is computed. 6 figures.

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UDC 531.36

GANIYEV, R. F., LYUTYY, A. I., VOROB'YEV, V. M.

On the Stability of Gyroscopic Systems Under Resonance Conditions"

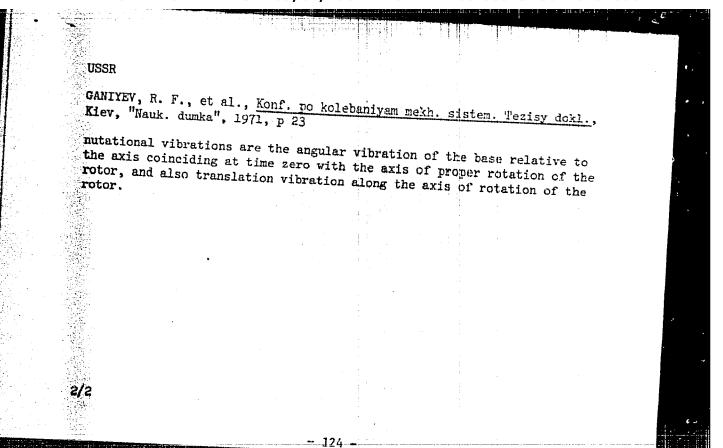
V sb. Konf. po kolebaniyam mekh. sistem. Tezisy dokl. (Conference on Oscillations of Mechanical Systems. Abstracts of the Reports), Kiev, "Nauk. dumka", 1971, p 23 (from RZh-Mekhanika, No 10, Oct 71, Abstract No 10A225)

Translation: An investigation is made of the effect which angular and translational vibrations of the base have on the stability of motion of gyroscopic systems under resonance conditions. Investigations are made of the stability of the equilibrium position of a double-axle gyroframe, an astatic gyroscope, a heavy gyroscope with horizontal suspension shaft of the outer ring, and also the stability of pseudoregular precession of a heavy gyroscope in which the axis of the outer ring suspension is vertical.

The velocities of systematic drifts are calculated, and conditions of stability at resonance are found. It is shown in particular that the most dangerous perturbations of the base which increase the amplitude of

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TELLOS INTERPRETARIOS INTERPRETARIOS INTERPRETARIOS INTERPRETARIOS INTERPRETARIOS CARROS C

TITLE-METHOD OF DETERMINING THE PLASTIC DEFORMATION OF HICRO SAMPLES PHOCESSING DATE--04DECTO AUTHOR-1031-MAKSIMOVICH, G.G., PAVLINA, V.S., LYUTY, E.M. COUNTRY OF INFO--USSR SOURCE-FIZ. KHIM. MEKHAN. MAT., 1970, 6. (1), 69-72 DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT

TOPIC TAGS-RHEOLOGIC PROPERTY, PLASTIC DEFORMATION, TEST METHOD,

CONTROL MARKING--NO RESTRICTIONS

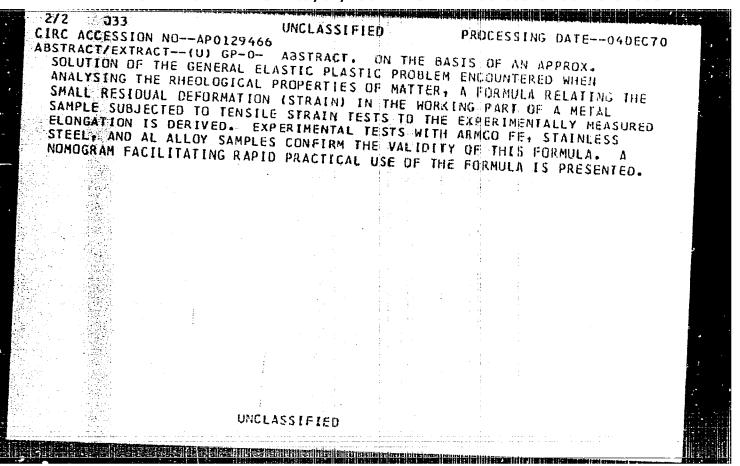
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CIRC ACCESSION NO--APO129466

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Optics & Spectroscopy

USSR

AGEYEV, V. A., GAVRILYUK, V. I., KUPRYASHKIN, V. T., LATYSHEV, G. D., LYUTYY, MAYDANYUK, V. K., MAKOVETSKIY, Yu. V., and FECKTISTOV, A. I., Institute of Physics of the Academy of Sciences UkrSSR

"Study of Conversion Electron Spectrum of Nb96"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No 8, Aug 70, pp

Abstract: Individual segments of the conversion electron spectrum of Nb96 associated with the doublet structure of transitions found by Monaro and others are also possible according to the decay scheme of Nb96 are studied. The measurements were made on the magnetic β -spectrometer of the type $\pi/2$ of the Institute of Physics of the Academy of Sciences UkrSSR. The measurements showed K-line doublets of transitions in the regions 350, 720, and 810 kev and K241.3 is apparently a single line. The results of the measurements are given in a table. The energy of all transitions observed was determined with an error of ± 0.3 kev. The K-lines of the transitions 350.1 and 352.1 kev were weak and therefore only an estimate of their intensity is given. For all transitions observed, $\alpha_{\rm K}$ were determined with respect

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AGEYEV, V. A., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No 8, Aug 70, pp 1614-1617

to the ratios of the intensities of the conversion lines to the intensities of γ -rays. The values of α_K for the transitions 350.1 and 352.1 were estimated. All transitions correspond to multipolarities M1 or E2. The exception was $\gamma 812.4$, for which the internal conversion ratio was less than that established from Tc^{90} decay. The ground states are evaluated on the basis of the shell model.

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UDC: 534.2

LYUTYY, V. A., NOVIKOV, L. V., SHVETS, A. I., Moscow

"Pulsations of Pressure in Ring Nozzles"

Moscow, Mekhanika Zhidkosti i Gaza, No 5, Sep-Oct 73, pp 126-132

Abstract: Results are presented from studies of the pulsations of bottom pressure on the end of a ring nozzle, related to the acoustical radiation of the supersonic streams. Pressure pulsations were studied using nozzles flat in the radial cross section with diameter of outer portion of section 110 mm, of inner portion -- 88 mm. An inductive pressure sensor was placed at the center of the end portion. Membrane-type inductive differential convertors were used in an arrangement with counter pressure. The signal was recorded on a 5-channel magnetic recording apparatus with preliminary amplification by a station with a carrier frequency of 36 KHz. The convertors and amplifier-recorder section were calibrated using a resonanttype pulsator, as well as a microphone, amplifier and magnetic recorder manufactured by Bruel and Kjer. The results of calibration indicate that the mean-square error in measurement of pulsation amplitude should not be over *3 db, of frequency *5%. The studies of the low-frequency approximation of the dispersion equation for a two-layer cylindrical stream showed 1/2

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LYUTYY, V. A., NOVIKOV, L. V., SHVETS, A. I., Moscow, Mekhanika Zhidkosti

that the ring stream tends to oscillate as a unit whole. It is known that the oscillations of flat streams are axisymmetrical, of circular streams -primarily bending, but there are flow loads when the oscillations are symmetrical. In the open-bottom area mode, feedback apparently arises due to radiation of waves by several periodic cells in the stream. In the critical mode there is only one cell. In this case, the resonant process does

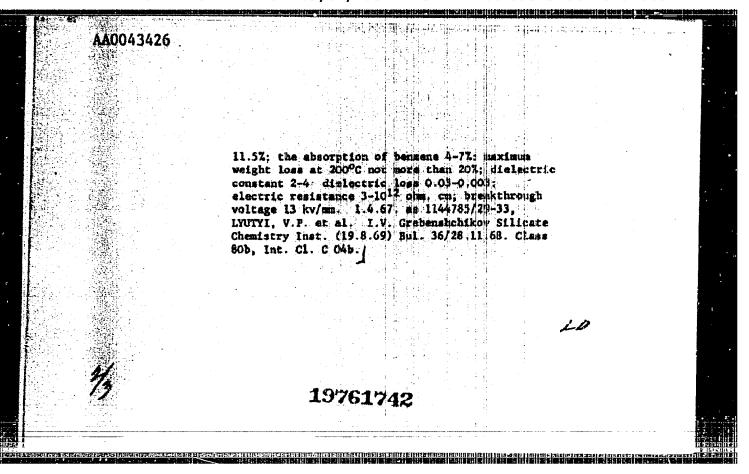
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UR 0482 Soviet Inventions Illustrated, Section I Chemical, Derwent, POLYMER-CEMENT SUSPENSION suitable for 232080 the formation of protective continues on metals, ceramic article or glass, or for glusing, consists of (in parts by wt); portland country 10-50, polymethylphenylsilogane resin 10-80, organic solvent for the realn 5-75, water 1-25 and optionally, a filler (mica, asbestos, maides of chromium or sinc, etc). Buitable organic solvents include lower alcoholr (methanol, sthampl etc), acetone, diorane, or the like, A thorough mixing of the components results in the formation of a suspension of hydrated cement in a solu. of the regin in the organic solvent. To form a continuous coating, the suspension is applied onto the article to be protected, and subjected to thermal treatment at 80-250°C for 3-24 hrs. The water-absorption of the coating after 24 hrs. is

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UDC 539.376:014.12

MARSIMOVICH, G. G., and LYUTYY, YE. M., Physicomeheancial Institute, Academy of Sciences Ukrainian SSR, L'vov

"Effect of Test Temperature on the Nature of Strain Hardening of Type KniBN9T Steels"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 10, No 1, 1974, pp 101-103

Abstract: The relationship of critical temperature to magnitude of prestressing was established for microsamples of steel Khi8N9T at 20°C in air and at 500, 640, 800 and 950°C in a medium of purified argon. Prior to testing, the samples were vacuum annealed at 1100°C for 1.5 hours. It was found that test temperature has a significant effect on tensile, yield, and long-time strengths of the steel with respect to prestressing nagmitude. As the coefficient of prestressing increases, the critical temperature for respective strength decreases, and the longer samples remain at test temperatures the lower their critical temperature, although the lowering of critical temperature doesn't start until the coefficient of prestress reaches 0.6. Three figures, four bibliographic references,

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UDC 620.178.1:669.15

MAKSIMOVICH, G. G., NAGIRNYY, S. V., LYUTYY, YE. M., and IGNATIV, M. I., Institute of Physico Mechanics, Academy of Sciences Ukrainian SSR

"Change in the Fine Structure of 1Kh18N9T Steel After Extended Stressing in Molten Lithium"

Livov, Fiziko-Khimicheskaya Mekhanika Materialov, No 3, May-June 10, pp 67-70

Abstract: A study was made of dislocation structural changes occurring in IKh18N9T steel when it is immersed in molten lithium under stress. Both the surface (less than 50 microns) and center of the steel samples were studied after holding the samples in lithium at temperatures of 500 and 650°C under stress.

A low dislocation density (10 /cm²) was noted in the initial samples, and the dislocation distribution was not uniform. Small masses of dislocations were noted near the grain boundaries and near the twin boundaries, as well as near a different site of inclusions and stacking faults. A large portion of the sample cross section was free of dislocations. After holding samples at 500°C for 100 hours, dislocation density was reduced further (10 /cm²), and was concentrated primarily between the carbides. Slip traces of dislocation groups and some growth of carbides in the dislocations were detected. Holding samples in lithium for 100 hours at 500°C under a stress of 17 kg/mm² caused a significant increase in dislocation

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USSR

MAKSIMOVICH, G. G., Fiziko-Knimicheskaya Mekhanika Materialov, No 3, May-June 70, pp 67-70

density. In the sample center, dislocation density was much higher than in the surface layer and they formed complex and tightly joined masses, especially around precipitated constituents. In the surface layer, dislocations were grouped around coarse carbides, where individual dislocation loops and lattices were observed close to large carbides and grain boundaries.

For samples held in lithium for 100 hours at 650°C under a load of 11.9 kt/sm the fine structure was similar to that described above—as to dislocation distribution. In this case the dislocation density gradient in the surface layers and in the center of the samples was much larger than at 500°C. In the sample centers growth of both small and large carbide chains was noted while around the precipitated particles there was a dense, barely discernible dislocation lattice. In the surface layers there were fewer carbides, lower dislocation density, and a more uniformly distributed dislocation density. Individual dislocations interacted to form dislocation loops, and there were large areas free of dislocations. Near the grain boundaries a true dislocation lattice is firmed. Moreover, twins were moted which in the center zone of the sample were surrounded by dense dislocation masses. Dislocations were absent in the surface layer.

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MAKSIMOVICH, G. G., et al, Fiziko-Khimicheskaya Mekhanika Materialov, No 3, May-June 70, pp 67-70

From the above-described observations it was deduced that molten lithium dissolves the oxide film on the sample surface and dissolves impurities and inclusions in 1kh18N9T steel as a result of which the number of barriers retarding dislocation movement to the surface is diminished.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

USSR

UDO: 621.382.029.6

VIKULINA, L. F., GONYAYEV, G. S., LYUZE, L. L., FEDOROV, Ye, V., SHIROKOVA,

"Investigation of the 'Second Threshold' Effect in Gallium Arsenide Cavity

Moscow, Radiotekhnika i Elektronika, Vol 16, No 1, Jan 71, pp 131-133

Abstract: An attempt is made to explain the "second threshold" effect reported by Gunn in 1966. The essence of this phenomenon is that an abrupt change in the frequency of oscillations takes place with an accompanying reduction in the average current through some gallium arsenide specimens when the bias voltage exceeds a certain value. The following mechanism is proposed as an explanation of the effect. At bias voltages between the threshold value and the "second" threshold, the specimen is operating in a "resonance-drift" mode. The overall voltage during the negative part of the cycle of the variable component falls below the threshold value, which delays the time for generation of a new domain. Above a certain bias voltage, which differs for different specimens, the amplitude of the variable component may be too small, so that the overall voltage does not fall below the threshold value. Thus there

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

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VIRULINA, L. F., et al, Radiotekhnika i Elektronika, Vol 16, No 1, Jan 71, pp

is a jump to the drift mode of operation. The lower amplitude of the oscillations in this mode is due to the reduction in current pulse duration. Frequency jumps do not take place when the specimens are connected in higher-Q oscillator sections, or when the elements of the section are adjusted with a change in voltage.

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UNCLASSIFIED PROCESSING DATE--230CT70 TITLE-EFFECT OF A STATIC DOMAIN ON CURRENT VOLTAGE CHARACTERISTICS -U-

AUTHOR-(02)-SHUSHKEVICH, V.L., LYUZE, L.L.

COUNTRY OF INFO--USSR

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SOURCE FIZ. TVERD. TELA 1970, 12(2), 650-2

DATE PUBLISHED---- 70

SUBJECT AREAS -- PHYSICS

TOPIC TAGS--VOLT AMPERE CHARACTERISTIC, GERMANIUM SEMICONOUCFOR, ELECTRIC FIELD, ELECTROSTATIC FIELD, PERIODIC PULSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1987/1974

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CIRC ACCESSION NO--APO105048

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028 2/2 UNCLASSIFIED PROCESSING DATE--230CT70 CIRC ACCESSION NO--APO105048 ABSTRACT/EXTRACT--(U) GP-0-ABSTRACT. EZPTL. RESULTS ARE GIVEN ON SOME PROPERTIES OF THE STATIC DOMAINS. N-GE SPECIMENS WERE USED WITH THE CONCN. OF BASIC CARRIERS AT 290DEGREESK OF 2 TIMES 10 PRIME14 CM PRIME MEASUREMENTS WERE CARRIED OUT UNDER PULSED CONDITIONS (1-50 MSEC. 50 HZ). MEASUREMENTS OF THE DISTRIBUTION OF THE FIELD ALONG THE SPECIMEN SHOW THAT THE DOMAIN IS ALWAYS FORMED AT THE CATHODE. THE FIELD IN THIS REGION CAN EXCEED THE FIELD ELSEWHERE IN THE SPECIMEN BY 2 ORDERS OF MAGNITUDE AND REACH A VALUE OF 10 PRIMES V-CM FOR AN AV. APPLIED FIELD OF 1000 V-CM. THIS PHENDMENON IS NOT OF THE CONTACT TYPE, HOWEVER, AND THE REGION OF FORMATION OF THE DOMAIN CAN BE ADJUSTED BY THE GEOMETRY OF THE SPECIMEN. DIMENSIONS OF THE DOMAIN AND MAGNITUDE OF THE FIELD DEPEND ON THE AV. VALUE OF THE FIELD ON THE SPECIMEN. INCREASING FIELD. THE FIELD IN THE DOMAIN INCREASES AS WELL AS ITS DIMENSIONS AND IT IS HSIFTED TOWARD THE ANDDE. THE PRESENCE OF THE DOMAIN CHANGES THE CURRENT VOLTAGE CHARACTERISTICS OF THE SPECIMEN.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"

TITLE—RELAXATION OSCILLATIONS ARISING DURING A STUDY OF GRADIENT

INSTABILITY IN NEARLY INTRINSIC GERMANIUM—U—
AUTHOR—(03)—ZAVYALOY, A.V., KARLOVA, G.F., LYUZE, L.L.

COUNTRY OF INFO—USSR

SOURCE—FIZ. TVERO. TELA 1970, 12(3), 915—17

DATE PUBLISHED————70

SUBJECT AREAS—PHYSICS

1/2 007

TOPIC TAGS -- GERMANIUM, VOLT AMPERE CHRACTERISTIC, OSCILLION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1994/0990

STEP NO--UR/0181/70/012/003/0915/0917

CIRC ACCESSION NO--APOII5011

UNCLASSIFIED

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007 2/2 UNCLASSIFIED PROCESSING DATE--27NOV70 CIRC ACCESSION NO--APO115011 ABSTRACT/EXTRACT--(U) GP-0-ABSTRACT. IN TYPE GE WAS INVESTIGATED WITH A SP. RESISTANCE OF 43 OHM CM OF THE STRUCTURE N PRIME POSITIVE HIMUS N MINUS N PRIME POSITIVE, WITH A TRANSVERSE N PRIME POSITIVE MINUS N CONTACT AND WITHOUT IT. MEASUREMENTS WERE CARRIED OUT UNDER PULSED CONDITIONS AT TAU EQUALS 50-100 MU SEC AND A FREQUENCY OF REPETITION OF 50 HZ V A CHARACTERISTICS AND THE POTENTIAL DISTRIBUTION ALONG THE LENGTH OF THE SPECIMENS WERE RECORDED. ON V-1 CHARACTERISTICS, A SECTION WAS OBSO. OF SWITCHOVER FROM A HIGH RESISTANCE STATE TO A HIGH COND. STATE. THE POTENTIAL DISTRIBUTION OVER THE LENGTH OF THE SPECIMEN BEFORE SWITCHING AND AFTER IS DIFFERENT. REDISTRIBUTION OF THE POTENTIAL LEADS TO A RECHARGING OF THE CAMACITANCE CONNECTED TO IT. DEPENDENCE IS ALSO GIVEN OF THE PERIOD L. CURRENT OSCILLATIONS IN THE EXTERNAL CIRCUIT ON THE MAGNITUDE OF THE CONNNECTED CAPACITANCE. STARTING WITH A VALUE OF C SUBG. THE PERIOD IS PRACTICALLY INDEPENDENT OF THE CAPACITANCE. THE EFFECT OF A MAGNETIC FIELD ON THE PERIOD DETO. BY THE EFFECT OF THE HALL EMF. ON THE CAPACITANCE.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--230C170
TITLE--POLYCONDENSATION OF OLIGOMERS OF POLYETHYLENE TEREPHTHALATE IN THE
SOLIO PHASE -UAUTHOR-(02)-ZHUPIYEV, L.I., LYZHNIK. ZH.F.

COUNTRY OF INFO--USSR

SOURCE PLAST. MASSY 1970, (3), 14-15

DATE PUBLISHED-----70

SUBJECT AREAS -- CHEMISTRY, MATERIALS

TOPIC TAGS -- POLYCONDENSATION, POLYETHYLENE TEREPHTHALATE, OLIGOMER

CONTROL MARKING--NO RESTRICTIONS

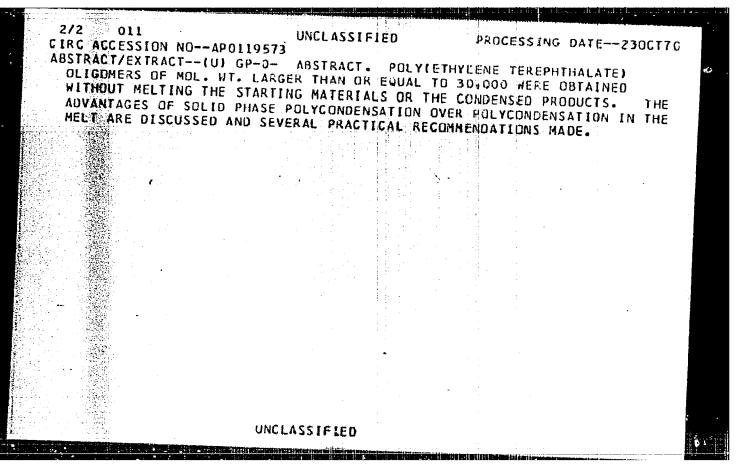
DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1997/0665

STEP NO--UR/0191/70/000/003/0014/0015

CIRC ACCESSION NO--APO119573

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201910002-4"



1/2 015 UNCLASSIFIED PROCESSING DATE-300CT70
TITLE-ANALYSIS OF TUMOR TRANSFORMATION OF TISSUES. II. BIOCHEMICAL
DEDIFFERENTIATION OF TISSUE DURING CARCINOGENESIS, CHANGES OF CREATINE
AUTHOR-TOS)-SALYAMON, L.S., ASHHARIN, I.P., OSTRETSOVA, I.B., LYZLOVA,
S.N., PLUZHNIKOVA, G.F.
COUNTRY OF INFO-USSR

SOURCE—TSITOLOGIYA 1970, 12(1), 102-10

SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS-TUMOR, TISSUE PHYSIOLOGY, CELL PHYSIOLOGY, ENZYME ACTIVITY, CARCINOGEN, CARBON TETRACHLORIDE, LEAD COMPOUND, BENZENE DERIVATIVE

CENTROL HARKING-NO RESTRICTIONS

PROXY REEL/FRAME--3001/2107

STEP NO--UR/9053/70/012/001/0102/0110

CIRC ACCESSION NO--APO127480

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2/2 015 UNCLASSIFIED CIRC ACCESSION NO-APO127480 PROCESSING DATE--300CT70 ABSTRACT/EXTRACT-- (U) GP-O- ABSTRACT. CREATINE KINASE (I) AND ALK. PHO PHATASE (II) ACTIVITY WAS STUDIED IN TRANSPLANTABLE TUMORS (HEPATOMA 224 IN C SUB3 HA MICE. HEPATOMA 27 AND KIDNEY TUMOR A8-12 IN RATS) AND TISSUES OF MICE AND RATS ADMINISTERED CARCINOGENIC COMPDS. (CCL SUB4, PB(GAC) SUB2. URETHANE AND 3.4. BEZNG(ALPHA) PYRENE). I ACTIVITY WAS INCREASED 3 FOLD IN HEPATOMA 27 AND 5-10 FOLD IN HEPATOMA 22A. IT INCREASED ALSO UP TO 2 FOLD DURING THE HEPATOGARCINOGENESIS IN HICE AFTER CCL SUB4 ADMINISTRATION. AFTER THE ADMINISTRATION OF 3.4.BENZG(ALPHA)PYRENE. I ACTIVITY IN SKELETAL MUSCLES DEGREASED TO SEPERGENT OF THE NORMAL VALUE WITHIN 26 DAYS AND A SIMILAR DECREASE WAS FOUND IN KIDNEYS OF RATS ADMINISTERED PB ACETATE. HOWEVER, I ACTIVITY IN THE LIVER WAS INCREASED. II ACTIVITY IN THE LIVER OF MICE ADMINISTERED CCL SUB4 INCREASED UP TO 3 FOLD DURING THE 1ST FEW DAYS THEN RETURNED TO NORMAL VALUES. PB ACETATE CAUSED A DECREASE IN II ACTIVITY IN THE KIDNEY AND KIDENY TUMORS. AFTER THE ADMINISTRATION OF URETHANE, II ACTIVITY IN THE LIVER INCREASED. IT WAS CONCLUDED THAT CHEM. CARCINOGENESIS IS ACCOMPANIED BY REPRESSIONS AND DEREPRESSIONS OF GENES REGULATING THE SYTHESIS OF ENZYMES IN CERTAIN TISSUES. FACILITY: LAB. PATHOL. PHYSIOL. TUMOR GROWTH, INST. UNCOL., LENINGRAD, The Property

UNCLASSIFIED

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1/2 015 TITLE-NEW TUBULAR PILE DRIVING DIESEL HAMMERS -U-

PROCESSING DATE--300CT70

AUTHOR-(031-LYZO, B.G., DMITREVICH, YU.V., TERENTSKIY, L.N.

COUNTRY OF INFO--USSR

SOURCE-NUSCOW, OSNOVANIYA, FUNDAMENTY I MEKHANIKA GRUNTOV, NO 1, 1970, PP DATE PUBLISHED-----70

SUBJECT AREAS -- MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS -- CONSTRUCTION MACHINERY, REINFORCED CONCRETE, DIESEL ENGINE,

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1989/1452

STEP NO-+UR/0225/70/000/001/0027/0028

CIRC ACCESSION NO--APO107896

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